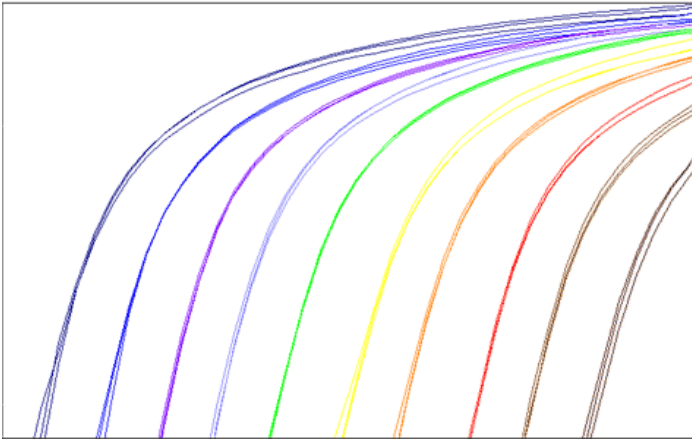


Overview:

- This course will review current real-time theory, techniques, machinery, troubleshooting, tools, and advanced protocols for sequence detection including SYBR green, TaqMan, Beacons, multiplexing, and SNP analysis. At the conclusion of this course, students should feel comfortable with real-time experimental design, its tools, and analysis of generated data.



Lectures:

1. Intro to real-time PCR and the enemy RNase
2. Gene Expression with qPCR alternatives
3. Instrumentation & Design of TaqMan probe
4. Real-Time PCR multiplexing
5. Analysis of Real-time PCR data
6. Using Real-time PCR to detect organisms
7. SNP detection using real-time PCR

Labs:

1. 2-step real-time PCR- SYBR green
2. Real-time PCR using TaqMan probes
3. Enumeration of genome equivalents
4. SNP detection