



Seminar: Quantitative and Direct Sequencing of DNA and RNA to Unravel Biological Questions

Understanding Genome Regulation using Helicos® True Single Molecule Sequencing (tSMS)™

For: M.D. Anderson Investigators, Research Personnel

Speaker: John Thompson, PhD; Sr. Director Genomic Research

When: Friday, February 12, 2010
12:30PM-2PM

Where: AT&T Auditorium; B2.4750

Summary:

Helicos True Single Molecule Sequencing provides a unique view of genome biology through direct analysis of cellular nucleic acids. Less material is required, and sample prep requires no PCR amplification or ligation, avoiding GC-content and size biases observed with other platforms.

This direct, non-PCR based approach enables highly accurate quantitation making it a unique and ideal tool for the analysis of Genome Regulation in addition to sequencing.

Diverse applications have been successfully performed including:

- RNA Seq: Stranded and quantitative across varying GC contents and transcript sizes
- Direct RNA Sequencing
- Genome sequencing for accurate variant detection
- ChIP-Seq using picogram quantities of DNA
- CNV studies from both fresh and formalin-fixed paraffin embedded (FFPE) tissue samples
- Sequencing of ancient and degraded DNA
- Small RNA studies leading to the identification of new classes of RNAs
- Direct capture and sequencing of RNA from cell quantities as few as 250 cells.

The Helicoscope™ Genetic Analysis System's performance and details on our newest applications and their use to study important biological questions will be discussed.

Hosts: Gordon Mills, M.D., Ph.D.
Chairman, Department of Molecular Therapeutics

Chang-gong Liu, Ph.D.
Professor, Department of Experimental Therapeutics
Director of the Non-Coding RNA Program

Lunch Provided at 12:00; RSVP to: Barbara Deleon
bdeleon@mdanderson.org or 563-0432

