

BIOEN 509 – DEPARTMENTAL SEMINAR SERIES

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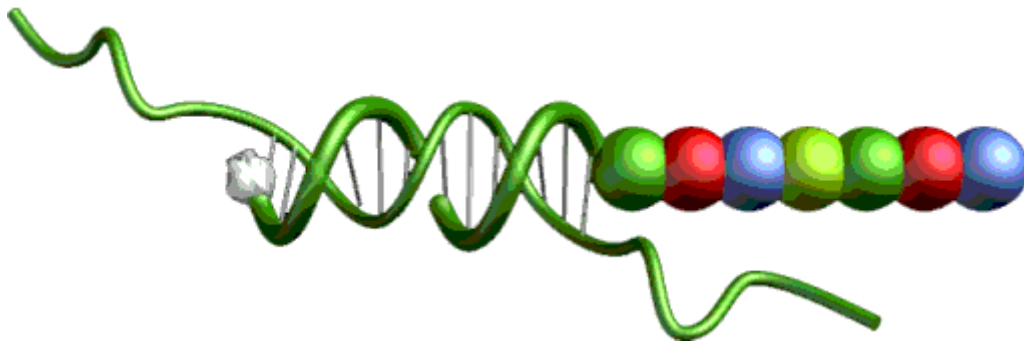
Foege Bioengineering Building N130A

Digital, Multiplexed Measurements Using Color-Coded Molecular Barcodes

Dr. Gary K. Geiss

Principal Scientist, NanoString Technologies

As scientific discovery platforms become more sophisticated and technological, the need for accurate, independent validation of the results is even more critical. Whole-genome microarray or Next Gen Sequencing experiments can often generate many hundreds of targets for follow up research. Current quantitative validation technologies can be difficult to carry out on this number of targets and often rely on amplification strategies that may bias or skew the results. We have developed an easy to use, highly multiplexed, and digital detection system that measures nucleic acids without amplification of the target molecules. The nCounter Analysis system utilizes color-coded molecular barcodes to count individual nucleic acid molecules and provide a digital count for each target. Up to 800 unique barcodes can be hybridized directly with the nucleic acid in a single reaction. The system is ideal for validation of large gene sets derived from whole-genome studies, validating gene signatures in clinically relevant sample types, or screening many samples on single set of genes.



Brief Bio of Dr. Gary K. Geiss

BS in Biology, Lock Haven University-PA-1991

PhD in Biochemistry and Molecular Biology-Colorado State University-CO-1997 studying Mechanisms of RNA Polymerase I transcription

Post-Doctoral Position-University of Washington-1997-2002, studying Genome-Wide Analysis of viral-host cell interactions

Scientist: Regulome Inc. 2002-2003 studying Genome-wide chromatin regulation

Research Scientist-Genome Sciences (UW) 2003-2005 working on Biosensor development

Principal Scientist-NanoString Technologies 2005-present Developing the nCounter System, a new assay development and improvements