Dr. Peter Hoyt

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Dr. Peter R. Hoyt joined the Oklahoma State University faculty in 2005 following three postdoctoral appointments with Oak Ridge National Laboratories, including one with ORNL's National Cancer Institute. He earned his bachelor's in biology and his master's in microbiology from the University of Houston. He received his Ph.D. in human genetics/cell biology from the University of Texas Medical Branch. At OSU, he serves as research associate scientist in the department of biochemistry and molecular biology, and as director of the OSU Microarray Core Facility and Bioinformatics Certificate Graduate Program.

His individual research program focuses on regulation of gene expression and metabolomics in whole-cell biology. His primary research project involves identifying control of cell determination events during differentiation of pluripotent (hematopoietic) and totipotent (embryonic) mouse stem cells using novel inducible siRNA expression vectors. Genome-wide effects are measured simultaneously using microarrays and RNA-seq using OSU's only metagenomic sequencer, a 454-Junior, located in his Microarray Core Facility. Additional projects include identifying metabolic effects of low-dose ionizing radiation in skin of different inbred mouse strains, examining the response of cells impaled onto vector-derivitized carbon nanofibers using microarrays and bionanotechnology, investigating a novel mechanism of cellular damage assessment associated with membrane healing, and developing novel robotic and molecular-biology-based technologies for high-throughput cellular analyses.

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