Laufey Amundadottir, Ph.D. Dr. Amundadottir’s current work focuses on genome wide association studies and functional characterization of plausible causal variants in order to understand how common sequence variation plays a role in the development of cancer.

Natasha Caplen, Ph.D. Dr. Caplen’s group focuses on (1) An improved understanding of the RNAi mechanism, including the role of miRNAs in controlling gene expression, (2) the development of optimized RNAi based resources, and protocols and assays using them and (3) the application of RNAi to cancer and cancer related processes and the use of RNAi to investigate the mechanism of action of anticancer drugs and their interaction with specific molecular target(s).

Neil Caporaso, M.D. Dr. Caporaso studies the molecular epidemiology of lung and tobacco-related cancers. He is also interested in family studies of lymphoproliferative cancers (i.e., chronic lymphocytic leukemia) and the pharmacogenetics of genotype-phenotype relationships.

Mary Carrington, Ph.D. Dr. Carrington studies host genetic effects on human disease. Her research focuses on the human HLA class I and II genes located within the human major histocompatibility complex (MHC) because the HLA genes play a central role in the immune response. Dr. Carrington’s lab is investigating the effects of HLA genes in several types of diseases, including infectious diseases, autoimmune diseases, and cancer.

Stephen Chanock, M.D. Dr. Chanock investigates the contribution of germ-line genetic variation to cancer and its related outcomes. Currently, he is co-leading the NCI Cancer Genetic Markers of Susceptibility (CGEMS) project, which will identify the genetic alterations that make people susceptible to prostate and breast cancer.

Michael Dean, Ph.D. Dr. Dean develops methods for analyzing complex diseases and applies these to human genetic conditions, cancer, HIV infection, and disease. Dr. Dean is using these novel methods to study the role of human ATP-binding cassette (ABC) genes in multidrug resistance, age-related macular degeneration, Stargardt disease, and sitosterolemia. Dr. Dean is also developing new reagents that block the growth of cancer stem cells, which are found in many solid tumors.

Scott Durum, Ph.D. Dr. Durum studies various aspects of cytokine function in T cell development. Currently, he is focusing on interleukin-7 (IL-7) because this cytokine is required for normal T cell development in the thymus, and for T cell survival and homeostatic proliferation of mature peripheral T cells.

Mark Gilbert, M.D. Dr. Gilbert’s research interests center on developing new treatment strategies for patients with malignant primary brain tumors.

David Goldstein, Ph.D. Dr. Goldstein directs CCR’s Office of Science & Technology Partnerships. This office is responsible for introducing new technologies and scientific resources to NCI intramural investigators through partnerships, collaborations, contracts, and other technology transfer agreements.

Frank Gonzalez, Ph.D. Dr. Gonzalez studies the role of cytochromes P450 (P450) and xenobiotic receptors in drug metabolism and chemical carcinogenesis. The P450 enzymes are among the most important enzymes involved in the metabolism of most therapeutic drugs, toxicants, and carcinogens.

Curtis Harris, M.D. Dr. Harris’s scientific interests span the molecular genetics of human cancer to the molecular epidemiology of cancer risk. His research focuses on gene-environment interaction and its effect on lung and colon cancer. Dr. Harris’ other interests include molecular mechanisms of cellular senescence in normal human cells and chronic inflammation and increased cancer risk.

Raffit Hassan, M.D. Dr. Hassan is involved in preclinical and clinical evaluation of novel therapeutic agents for cancer treatment. His laboratory is developing and evaluating immunotoxins that target mesothelin-expressing tumors. Mesothelin is a glycoprotein that is present on normal mesothelial cells and that is overexpressed in several tumors, especially ovarian cancer, mesotheliomas, and pancreatic cancer. Dr. Hassan's group has shown mesothelin to be a promising target for cancer therapy.

Jing Huang, Ph.D. Dr. Jing Huang is the head of the Cancer and Stem Cell Epigenetics Section in the Laboratory of Cancer Biology and Genetics. Dr. Huang's section uses genome-wide approaches, such as ChIP-chip, ChIP-seq, gene expression microarray and RNA-seq, to study the epigenetic and chromatic regulation of p53 signaling and stem cell biology. Specifically, we are using embryonic stem cells and neural progenitor cells as our model cell lines. We also hope to identify new therapeutic targets for cancer treatment.

Kent Hunter, Ph.D. Dr. Hunter's research is aimed at gaining a better understanding of the factors that lead to metastasis, with the goal of improving cancer prognosis and clinical management. To accomplish this, Dr. Hunter is investigating the effects of constitutional genetic polymorphism on metastatic progression using a mouse mammary tumor model.

Kathleen Kelly, Ph.D. Dr. Kelly is identifying and characterizing the signaling pathways that mediate cancer progression and metastasis. Her laboratory uses two complementary approaches, genetically engineered mouse (GEM) models and xenograft models, to address mechanistic questions concerning the origin of prostate cancer metastasis, metastatic colonization of secondary organs, and therapeutic responses.

Javed Khan, M.D. Dr. Khan’s chief research goals are to leverage the power of genome wide high-throughput approaches to improve the outcome of patients with high risk cancers, with a focus on neuroblastoma and to translate this to the clinic. His lab utilizes microarrays and novel
genomics strategies such as next generation sequencing combined with computational biology to identify biomarkers for diagnosis and prognosis prediction as well as targets for therapy. See http://home.ccr.cancer.gov/oncology/oncogenomics/ for details.

Amy LeBlanc, D.V.M. Dr. LeBlanc has a strong interest in animal modeling for development of new cancer drugs and imaging agents, and identification of imaging biomarkers, development and optimization of PET imaging hardware and imaging protocols. She has experience in fostering collaborations with industry and academic partners to support relevant eIND studies in man. She has given numerous invited lectures on the inclusion of companion animals in imaging-based translational research and the value of comparative oncology in drug and imaging agent development.

David Levens, M.D., Ph.D. Dr. Levens studies the role of the c-myc promoter in the regulation of cell growth, proliferation, differentiation, and apoptosis. Elevated expression of c-myc has been detected in a wide range of human cancers, indicating a key role for this oncogene in tumor development.

Marston Linehan, M.D. Dr. Linehan's scientific interests span the molecular genetics of urologic malignancies to the evaluation and treatment of patients with hereditary and sporadic forms of genitourinary cancers. His current studies are aimed at characterizing the von Hippel-Lindau (VHL) tumor suppressor gene product and the c-Met oncogene, which is involved in hereditary papillary renal cell carcinoma.

Paul Meltzer, M.D., Ph.D. Dr. Meltzer's research interests are focused on the characterization of genetic alterations in cancer cells, the mechanisms that lead to their development and their effects on gene expression. To address these issues, Dr. Meltzer and colleagues utilize several genomic technologies, especially DNA microarray hybridization.

Glenn Merlino, Ph.D. Receptor tyrosine kinase (RTK) signal transduction is frequently dysregulated in tumorigenesis. Dr. Merlino is studying RTK signaling in mouse models of human cancer. He has selected the melanocyte as a model system to study RTKs because the incidence of melanocytic tumors is increasing and melanoma is one of the most aggressive types of human cancer.

Thomas Misteli, Ph.D. Dr. Misteli is studying the cell biology of genomes using molecular techniques in combination with live-cell microscopy. His goals are to understand how genomes are organized in intact cells and how the spatial organization of genomes contributes to their function. Defects in genome organization and nuclear architecture are responsible for numerous human diseases, including cancer, neurodegenerative disorders, and muscular dystrophies and these defects have recently been linked to human aging as well.

Beverly Mock, Ph.D. Dr. Mock's research focuses on the complex genetic traits associated with cancer development. She combines classical and molecular genetic studies to map, isolate, and characterize disease-trait loci associated with multistep models of B cell tumors. To this end, Dr. Mock's lab is mapping the chromosomal locations of genes associated with the susceptibility of BALB/c mice to the induction of mouse plasmacytomas.

Karlyne Reilly, Ph.D. Dr. Reilly's current research focuses on mechanisms of susceptibility to nervous system tumors and preclinical models of tumors associated with neurofibromatosis type 1 (NF1).

Thomas Ried, M.D. Dr. Ried investigates the role of genomic instability and associated gene expression changes during cancer development. He is analyzing aneuploidy as a molecular marker for cancer diagnostics and identifying gene expression signatures that assist in disease prognosis and therapy.

Richard Simon, D.Sc Dr. Simon's current research interests include Bayesian methods in clinical trial design and analysis, and the development of methods for the analysis of genome sequence and expression data to identify cancer-related genes, elucidate their functions, determine the steps of tumor development, identify molecular targets and develop genome-based approaches to the prevention, detection, diagnosis and treatment of cancer.

Sudhir Srivastava, Ph.D., M.P.H. Dr. Srivastava is with the Cancer Biomarkers Group, Division of Cancer Prevention, NCI. This group promotes and supports research to identify, develop, and validate biological markers for earlier cancer detection and risk assessment. The goal is to integrate basic and clinical studies along with computational, statistical, and epidemiologic approaches for a comprehensive understanding of biomarkers.

Louis Staudt, M.D., Ph.D. Dr. Staudt's laboratory studies the molecular pathogenesis of human lymphoid malignancies. Their goals are to: establish a new molecular diagnosis of lymphoid malignancies using gene expression profiling, elucidate the oncogenic pathways that result in malignant transformation of normal B lymphocytes, and identify molecular targets that could be used to develop new therapeutics for these cancers.

Philip Taylor, M.D., Sc.D. Dr. Taylor develops prevention strategies for cancers of the upper gastrointestinal tract (esophageal and gastric cancers) using a variety of research approaches (cancer prevention trials, early detection studies, etiologic studies, laboratory-based molecular research, and clinical nutrition studies).

Snorri Thorgeirsson, M.D., Ph.D. Dr. Thorgeirsson's research interests center on the application of genome scale genomics in studies on molecular pathogenesis, classification and experimental treatment of human liver cancer; use of transgenic mouse models for liver cancer; and stem cell biology with emphasis on cancer stem cells in primary liver cancer.

Giorgio Trinchieri, M.D. Dr. Trinchieri is interested in the role of inflammation, innate resistance, and immunity in carcinogenesis, and cancer progression, prevention, or destruction. His research focuses on the interplay between inflammation/innate resistance and adaptive immunity, and the role of pro-inflammatory cytokines in regulating hematopoiesis, innate resistance, and immunity.

Margaret Tucker, M.D. Dr. Tucker studies predictors of high cancer risk among populations with specific genetic alterations or families with high rate of cancers. She is also interested in the integration of clinical, epidemiologic, and molecular research.

Xin Wei Wang, Ph.D. Dr. Wang is exploring the molecular mechanisms related to gastroenterological malignancies, including liver cancer, metastatic gastric cancer, and colorectal cancer to determine the molecular events that are critical for tumor initiation and progression. Using human hepatocellular carcinoma (HCC) as a model system, Dr. Wang's lab plans to learn how cancer cells initiate and metastasize, identify
biomarkers that are useful for early diagnosis, and identify molecular targets for effective therapeutic intervention.

Allan Weissman, M.D. Dr. Weissman is interested in all aspects of the ubiquitin system, but his research focuses primarily on ubiquitin protein ligases, their interactions with specific conjugating enzymes (E2s), their structure-function relationship, and the role these proteins play in modulating critical cellular processes, particularly those that are associated with cancer and other human diseases.

Brigitte Widemann, M.D. Dr. Widemann and her colleagues have developed novel imaging methods for NF1-related plexiform neurofibromas and pioneered the development of early phase drug treatments for this patient population. Dr. Widemann leads multiple clinical trials of new investigational agents in pediatric refractory cancers and NF1.

Meredith Yeager, Ph.D.

Stuart Yuspa, M.D. Dr. Yuspa’s research interests include carcinogenesis and epithelial differentiation. His studies are aimed at elucidating the genetic changes associated with the development of squamous cell carcinoma using a mouse model of skin carcinogenesis.