

**Table 2. Participating Faculty Members
(Alphabetically by Faculty Member)**

OMB Number 0925-0001 (Rev. 8/12 Approved Through 8/31/2015)

Name/Degree(s)	Rank	Primary (& Secondary) Appointment(s)	Role in Program	Research Interest
Allen, Bryan G., MD/ PhD	Assistant Professor	Radiation Oncology, Free Radical and Radiation Biology Program	Junior Mentor	Metabolic oxidative stress and cancer therapy leading to clinical trials.
Buettner, Garry R., PhD	Professor	Radiation Oncology, Free Radical and Radiation Biology Program (Human Toxicology)	Senior Mentor	The guiding hypothesis for our research program is that superoxide and hydrogen peroxide are the foundations for dictating the basic biology of cells and tissues. Our goal is to quantitate on an absolute basis the many redox active enzymes and proteins as well the flux of ROS in cells; this information will allow us to understand how these reactive oxygen species determine the biology of the cell. With this information new avenues for maintaining health and the treating cancer will be elucidated.
Burnett, Andean L., PhD	Assistant Professor	Pathology (Radiation Oncology, Free Radical and Radiation Biology Program, Human Toxicology)	Junior Mentor	Role of inflammation and cytokine mediated signaling in cancer therapy.

Name/Degree(s)	Rank	Primary (& Secondary) Appointment(s)	Role in Program	Research Interest
Carter, A. Brent, MD	Professor	Internal Medicine, Pulmonary (Radiation Oncology, Free Radical and Radiation Biology Program, Human Toxicology)	Senior Mentor	Regulation of cytokine gene expression in lung injury and fibrosis. The role of MAP kinases in transcription factor activation in monocytes and macrophages. Role of oxidants and antioxidants in regulating signaling in macrophages exposed to environmental agents, such as asbestos and silica.
Cullen, Joseph J., MD	Professor	Surgery (Radiation Oncology, Free Radical and Radiation Biology Program, Pharmacology Program)	Senior Mentor	Role of antioxidant enzymes, pharmacological ascorbate and EcSOD in pancreatic cancer therapy.
Goswami, Prabhat C., PhD	Professor	Radiation Oncology, Free Radical and Radiation Biology Program (Human Toxicology, Molecular and Cellular Biology)	Senior Mentor	Dr. Goswami's laboratory is pursuing a mechanistic understanding of the role intracellular redox-state plays in regulating the mammalian cell cycle, and the establishment of a link between ROS-signaling and other aspects of intracellular signaling networks. Additional research interest includes investigating the possible role of intracellular redox environment in wound healing, radiosensitivity, radiation-induced cell cycle checkpoint pathways, and post-transcriptional gene regulation.

Name/Degree(s)	Rank	Primary (& Secondary) Appointment(s)	Role in Program	Research Interest
Irani, Kaikobad, MD, PhD	Professor	Internal Medicine, (Radiation Oncology, Free Radical and Radiation Biology Program)	Senior Mentor	Our laboratory broadly studies the molecular basis for vascular function and dysfunction in health and disease. Currently, the focus of the laboratory is on understanding the roles of the redox proteins Ref-1/APE1 and p66shc, and the lysine deacetylase SIRT1 in governing endothelium-dependent vascular function in normal tissue injury related to cancer therapy.
Miller, Francis J., MD	Professor	Internal Medicine, (Radiation Oncology, Free Radical and Radiation Biology Program)	Senior Mentor	Dr. Miller's research interests focus on the role of reactive oxygen species in vascular disease. Studies are directed at (1) the detection of reactive oxygen species in blood vessels and cultured vascular cells, (2) determining the Cellular source of reactive oxygen species in vascular cells, with particular attention to NADPH oxidase, and (3) examining the physiologic importance of increased reactive oxygen species in smooth muscle and cancer cells.
Pieper, Andrew, MD, PhD	Associate Professor	Psychiatry/Neurology (Radiation Oncology, Free Radical and Radiation Biology Program)	Senior Mentor	Neuropsychiatric Disease and Disorders as well as small molecules that protect against brain injury.

Name/Degree(s)	Rank	Primary (& Secondary) Appointment(s)	Role in Program	Research Interest
Schultz, Michael, K., PhD	Associate Professor	Radiology, Nuclear Medicine Division (Radiation Oncology, Free Radical and Radiation Biology Program, and Internal Medicine)	Senior Mentor	Dr Schultz is interested in small molecules that target mitochondria and selectively kill cancer vs normal cells. He also has interests in radiochemistry and imaging cancers <i>in vivo</i> .

Name/Degree(s)	Rank	Primary (& Secondary) Appointment(s)	Role in Program	Research Interest
Spitz, Douglas R., PhD	Professor	Radiation Oncology, Free Radical and Radiation Biology Program (Human Toxicology)	Senior Mentor	The Spitz laboratory is involved with the study of free radicals and oxidative stress in cancer biology from both the basic science as well as a pre-clinical translational perspective. Ongoing projects include the study of mitochondrial defects and metabolic oxidative stress in cancer biology, molecular imaging of metabolism and prediction of responses to therapy, the study of molecular mechanisms of resistance to oxidative stress as they relate to tumor cell resistance to therapy, using inhibitors of glucose and hydroperoxide metabolism to selectively sensitize human tumor cells to conventional anticancer agents that induce oxidative stress. Our long term goal is to use a basic science understanding of mechanisms associated with free radical biology to elucidate novel methods for manipulating clinically significant outcomes in cancer biology and degenerative diseases associated with aging.

Name/Degree(s)	Rank	Primary (& Secondary) Appointment(s)	Role in Program	Research Interest
Taylor, Eric B, PhD	Assistant Professor	Biochemistry	Junior Mentor	Mitochondrial metabolism and pyruvate transport.
Washington, M. Todd, PhD	Associate Professor	Biochemistry, (Radiation Oncology, Free Radical and Radiation Biology Program)	Senior Mentor	Mechanisms of damaged DNA replication and mutagenesis in eukaryotic systems.