Carlos L. Arteaga, M.D.
2011 Susan G. Komen for the Cure®
Brinker Award for Scientific Distinction in Basic Science

Carlos L. Arteaga, M.D., is being honored for his extensive contributions to breast cancer research, which have been instrumental in explaining the role of several key proteins and growth factor receptors in the pathogenesis of breast cancer. Dr. Arteaga's research has contributed to the foundation for clinical use of several widely used breast cancer drugs that target these proteins, and has demonstrated the potential for targeting others in future therapy development.

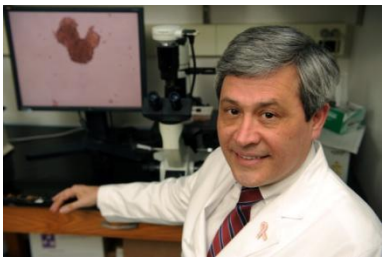

**Photo by Joe Howell, Vanderbilt*

Dr. Arteaga's research has been instrumental in characterizing the role of several key pathways in breast cancer, including pathways that are responsible for breast cancer cell growth, division, and metastasis. His early work focused on the TGF-β (transforming growth factor beta) network in cells taking on metastatic properties. Dr. Arteaga was the first to demonstrate their role in breast cancer initiation and metastasis. His seminal findings laid the groundwork for targeting TGF-β with cancer drugs, an area that is currently under active clinical investigation.

Some of his work helped provide the rationale for using trastuzumab (Herceptin) in combination with chemotherapy for more effective treatment of HER2+ breast cancer. This research also contributed to the foundation for subsequent use of trastuzumab combined with gefitinib (Iressa) to treat HER2+ breast cancer. More recently his team is exploring the mechanisms of drug resistance in breast cancer particularly to EGFR (epidermal growth factor receptor) and HER2 inhibitors, and the discovery of biomarkers of drug action and resistance to antiestrogen therapy.

Dr. Arteaga currently holds the Donna S. Hall Chair in Breast Cancer Research at Vanderbilt University and serves as Professor of Medicine and Cancer Biology in the Department of Medicine and Associate Director for Clinical Research at Vanderbilt-Ingram Cancer Center (VICC). Dr. Arteaga is also Director of the Breast Cancer Program of the NCI-designated VICC. He received his medical degree in 1980 at the University of Guayaquil in Ecuador. He trained in Internal Medicine at Emory University in Atlanta, Ga. and then completed a fellowship in Medical Oncology at the UT Health Sciences Center in San Antonio, Texas.

Throughout his career as a physician-scientist, many of Dr. Arteaga's mechanistic research studies have translated from the bench to the bedside and have impacted the current and future approaches to breast cancer treatment.