

Lopa Mishra, MD
Director, Center for Translational Medicine
Professor, Surgery
George Washington University

Lopa Mishra, M.D. is currently Director, Center for Translational Medicine, Department of Surgery, George Washington University from 2015 where she moved from Houston Texas. Dr. Mishra was at MD Anderson from December 2009 until 2015, as Professor and Chair of Gastroenterology, Hepatology and Nutrition. In 2010, she was named holder of the endowed position: Del & Dennis McCarthy Distinguished Professorship. Dr. Mishra also served



as Associate Director of the Texas Digestive Diseases Center, an NCI-funded, multi-investigator program project in gastrointestinal (GI) cancers. Under Dr. Mishra's leadership, the department grew from one clinical program to eight programs in GI cancers, including a major colon cancer prevention program. The department's outstanding faculty, some of whom Dr. Mishra has recruited, are ranked among the nation's leaders in the prevention, diagnosis and treatment of diseases of the digestive tract and liver with a substantial focus on cancers. One example of the department's outstanding work is the 2013 "exceptional-outstanding" score from the National Cancer Institute of the Gastrointestinal Cancer Program (GICP) for the Cancer Center Support Grant. Reflecting her strong commitment to education, Dr. Mishra re-energized the fellowship program between MD Anderson and UT Houston. Dr. Mishra's efforts extended far beyond Houston: she initiated the first MD Anderson Global Academic Program with sub-Saharan Africa, including Ethiopia, Kenya and South Africa.

Understanding TGF- β tumor suppressor function

Dr. Mishra's research is in TGF- β signaling and cancer stem cells in liver and gastrointestinal cancer, with a focus on genetic analyses of the pathway, through Smad adaptors, ubiquitination, and interactions between the TGF- β signaling pathway and chromatin modulators. **TGF- β controls many fundamental aspects of cell proliferation and differentiation through regulation of target gene transcription by the Smad family of transcription factors. It plays a complex role in cancer.** Mishra was the first one to demonstrate the tumor suppressor role of the TGF- β effector protein β -2Spectrin in the TGF- β pathway. She discovered that that the TGF- β pathway is the effector pathway for the human stem cell syndrome with an 800fold risk of cancer (Beck-Wiedmann Syndrome), *Science* 2003,2005, *PNAS*, 2008, *JNCI* 2012, *JCI*, 2013, 2016, *Plos One* 2016, *Hepatology*, 2017, *Gastroenterology* 2018. Dr. Mishra has over 318 peer-reviewed publications, and has sustained federal funding for the last 24 years. Dr. Mishra's linking of TGF- β signaling with changes in E-cadherin and β -catenin for the first time in a human disease provide important clues to a common basis for the development of human liver and gastrointestinal cancers. Her current focus on mechanistic studies identifying key signaling pathways in foregut cancers, which has led her to explore new therapeutics targeted at liver and gastrointestinal cancer.

Dr. Mishra's scholarship focuses on developing effective therapeutics targeting liver and GI cancers with a focus on the TGF-beta signaling pathway and cancer stem cells. Using mouse and human genetic studies, her team identified a group of liver and GI stem cell proteins crucial for TGF-beta signaling and modulation of human GI cancers and Beckwith-Wiedemann Syndrome. Studies have yielded potentially powerful insights into the origins of lethal hepatocellular carcinoma, 40% of which are clonal and could arise from cancer stem cells, thus providing key insights using TGF-beta signaling to target subpopulations who could respond to treatment. Her research has led to more than 200 peer review articles. For her outstanding work, Dr. Mishra has received many honors including: American Gastroenterological Association Award for Top Women in Gastroenterology (2008), Funderburg Scholar in Gastric Cancer (2003-05), Betty and Harry Myerberg Award for Excellence in Research in Liver Development (1998), Elisabeth and John Cox Award for Innovative Clinical Therapy of Esophageal Cancer (1996), USV Industry New Investigator Award (1995) and the Stuart Mill Prize in Tropical Medicine (1981). In 2016, she was elected Fellow of the American Association for the Advancement of Science (AAAS). AAAS Fellows are elected by members of the 141-year-old organization. In 2016 Dr. Mishra was elected to the Governing Board of the American Association for the study of Liver Diseases (AASLD).