

Basic Science Research Award



Yatrik M. Shah, Ph.D.

Associate Professor of Molecular and Integrative Physiology
Associate Professor of Internal Medicine

Leadership and fellow faculty who supported Yatrik M. Shah, Ph.D.'s nomination for the Basic Science Research Award all speak in glowing terms about his significant contributions to the Medical School's research community, and also his current research program focused on determining the molecular mechanisms by which oxygen sensing transcription factors regulate homeostasis in the gastrointestinal tract and liver.

They also agree on one other key qualification — Shah has reached professional milestones and made seminal research findings in near-record time. Since joining the U-M faculty in 2009 as a Biological Sciences Scholars Program recruit, he was promoted after only five years to his current role of associate professor of molecular and integrative physiology, and internal medicine. He had his research laboratory up and running within a month of his arrival on campus, and he quickly secured R01 grants from the National Institutes of Health and the National Institute of Diabetes and Digestive and Kidney Diseases.

This doesn't even take into account his enormous productivity before he reached the U-M campus. He received both the Outstanding Ph.D. Graduate Student Award and the Fellows Research Award — twice — from the Medical College of Ohio. He also published four papers as a graduate student and 18 papers with his mentor Frank J. Gonzalez, Ph.D. — many of which were first-author papers in high-impact journals.

His early success has resulted in new investigator awards from the American Physiological Society (2012) and the Gastrointestinal Research Group/American Gastrointestinal Association (2014), and the Cozzarelli Prize in 2016 from the Proceedings of the National Academy of Sciences for his paper, "Maternal Intestinal HIF-2 α is Necessary for Sensing Iron Demands of Lactation in Mice."

Shah's research efforts are focused on: the role of hypoxia-inducible factor (HIF) transcription factors in cellular and tissue iron metabolism, including in iron-deficient and iron-excess states; the role of liver oxygen sensing in hepatic glucose regulation; and the linkages between HIF signaling in intestinal inflammation in the colon and in colon cancer. His laboratory was one of the first to identify how basal hypoxic stress is a critical signal in integrating nutrient sensing to regulatory responses to maintain homeostasis.

"I love being around and directly conducting cutting-edge research that we hope can impact disease and therapy," he says. "I find it amazing that any type of research question we have (here at Michigan), there is always someone who is able to help or guide us."



"I think a compelling argument can be made that he is among the most creative and productive young researchers in the gastrointestinal research field, and he will continue to excel in directing a vibrant and productive research program in the years to come."

— Eric R. Fearon, M.D., Ph.D., Maisel Professor of Oncology, director, Comprehensive Cancer Center