

Professor of Physiology & Biophysics, University of Louisville, Louisville, Kentucky; Stodghill Endowed Chair in Biomedical Sciences, University of Louisville, Louisville, Kentucky; and Vice Chair for Research, Physiology & Biophysics, University of Louisville, Louisville, Kentucky

Dr. Tyagi's research career began as a biophysical scientist during his graduate and post-graduate training in India and Ireland. His career explored the dynamics of molecular biology of metalloproteinase homeostasis in cardiovascular remodeling in several post-doctoral fellowships (1984-1991). He was an assistant professor of medicine and biochemistry at University of Missouri-Columbia (1992-1996); and associate professor (1998-2003) University of Mississippi Medical Center. Currently he is professor at University of Louisville. His research has demonstrated the role of metal in gene transcription by RNA polymerase. Subsequently, he explored the role of metalloproteinase in heart and vessels. The work from Dr. Tyagi's laboratory was the first to discover that normally metalloproteinases are latent in heart and vessels. These metalloproteinase can be activated by oxidative stress in pathological conditions such as the heart failure. This novel finding has stood the numerous tests of time again and again. He has published in excellent journals such as American J Physiology, Circulation, J Biol Chem; Biochemistry, J Mol Cell Cardiology and various excellent biomedical science journals. Dr. Tyagi is member of honored societies such as the APS, ISHR, and AHA where he has served in various capacities. He has served on NIH study section committees. Currently he is regular member of NIH-MIM study section. He is on editorial board of AJP, JMCC, Clin & Exper Hypertension, and Mol Cell Biochemistry. He has numerous awards and honors from AHA and APS. He has been supported by national funding throughout his research career. Currently his work is supported by several NIH grants to study the homocysteine homeostasis and matrix remodeling in cardiovascular and cerebral vascular diseases. He is co-investigator on several NIH funded grants. He has published more than 250 research articles in peer-reviewed journals, such as AJP, Circulation, JMCC, JBC and others. He has chapters in more than 50 books. These books are valuable to many basic science and medical students. He has been an invited speaker at more than 60 institutes and presented more than 200 research papers.

Dr. Tyagi has consistently pursued a research program aimed at elucidating the role of metalloproteinase in cardiovascular disease and stroke. His work has impacted our view of metalloproteinase in cardiovascular remodeling and dysfunction. His research has great significance for many diseases, especially heart failure, Alzheimer's disease, renal disease, Type 1 and 2 diabetes, hypertension. Based on his findings he has received many gold level awards.

Quality of the human resources: Dr. Tyagi and his research team have worked deliberately and enthusiastically over 2 decades to create a research environment with substantial international recognition. As a result of his sound reputation as a scientific supervisor, he has trained many students, post-doctoral fellows and faculty to the levels of excellence in science. These are not only excellent scientists; they are also excellent role models for a younger generation of scientists. Many of Dr. Tyagi's trained fellows are now independent scientists pursuing their research endeavors in cardiovascular sciences. Dr. Tyagi is a role model to our scientific community.

Additional aspects: It is clear that Dr. Tyagi is not only an excellent scientist in cardiovascular remodeling area. He is also a wonderful friend and colleagues, and has developed a great relationship with medical science arena around the nation and the world. His research group grew exponentially in human resources and funding support. He is also a role model for the leadership qualities. His research extends beyond the field of remodeling and has implications in cancer, vascular dementias, and brain micro vascular diseases.

