Dr. Elizabeth (Tish) Murphy is a Chief of the Cardiac Physiology Section in the Cardiovascular Branch at NHLBI, Bethesda, MD. Her research is focused on understanding mechanisms regulating cardiomyocyte cell death with a focus on developing novel cardioprotective therapeutics. She also studies mechanisms regulating sex differences in cardiovascular disease. She received her PhD from the University of Pennsylvania in Biochemistry, followed by postdoctoral studies in Physiology at Duke University.

Early work by Dr. Murphy and her collaborators showed that the cardioprotective effect of the sodium-proton exchange inhibitors, such as amiloride, involved attenuating the rise in sodium and calcium during ischemia and reperfusion. Her lab further demonstrated that stress induced protection, termed preconditioning, also reduces the rise in Na+ and Ca2+ during ischemia. Over the years, her lab has published a number of critical studies examining the role of ion channel transporters such as the sodium proton and sodium-calcium exchangers in ischemia and reperfusion injury. Dr. Murphy has also made important contributions in the development of calcium and magnesium indicators and holds a patent for a fluorescent calcium indicator.

Dr. Murphy’s recent work has focused on the role of mitochondria in cell death and cardioprotection. As an increase in mitochondrial calcium is a well-known trigger of cell death, her lab is investigating the role of the mitochondrial calcium uniport (MCU) complex, which is responsible for mitochondrial calcium uptake. Her lab examined the role of MCU in I/R injury in a mouse model in which MCU was deleted in the germline. Surprisingly it was found that although germline mitochondria from MCU-KO hearts did not take up Ca2+ or exhibit a Ca2+ induced mitochondrial permeability transition pore opening, hearts from these mice were not protected from I/R injury. Of note, in mice with an inducible cardiac specific deletion of MCU, inducible loss of MCU in an adult reduced I/R injury. Because of the importance of mitochondrial Ca2+ in regulating bioenergetics and cell death, Dr. Murphy and collaborators have recently developed novel optical methods to measure mitochondrial Ca2+ in a beating perfused heart.

Dr. Murphy was elected as a Fellow of the ISHR and the American Heart Association (AHA) and serves as Deputy Editor of Circulation Research. She served as President of the International Society for Heart Research (2016-19) and on the Leadership Committee for the Basic Cardiovascular Science Council of the American Heart Association (2000-2004 and 2017-19). She is also the North American Coordinator of a Leducq Transatlantic Network of Excellence on Targeting Mitochondria to Treat Heart Disease (2017-21). She has received the Dressler Award Lecture at Dalhousie University in 2012 and the Richard Bing Young Investigator Award from the International Society for Heart Research in 1983. She has published over 200 papers in peer-reviewed journals.
Peter Harris was an influential international statesman in cardiology. A science scholar at King’s College, London, UK, Harris trained in medicine at King’s College Hosp., qualifying in 1946. During house appointments at King’s and the Brompton Hosp., he obtained his MD in 1951, winning the university gold medal and a PhD in 1955. He was appointed lecturer, in 1957, and reader in medicine, in 1962, at Birmingham University. In 1966, he was appointed the first Simon Marks’ Professor of Cardiology at the Cardiothoracic Institute and Director of the Institute of Cardiology, in the Univ. of London.

His career, which was dedicated to exploring the cardiovascular system and the origins of heart disease, can be viewed as three chapters. During the 1950’s and early 1960’s, he was in the mainstream of research, and used established methods of haemodynamic measurements to explore cardiac output and pulmonary blood flow and the metabolism of the heart muscle. [During]... the second stage of his career ... his research into the heart muscle turned to experiments at the cellular and molecular level. In 1970, Harris organized a meeting of ... an international study group for research in cardiac metabolism, which resulted in the publication of one of the most influential works on cardiology: Calcium and the Heart. The third element to Harris’s career involved his fascination with the evolution of the cardiovascular and related systems. In a series of essays in 1983, he traced the way that the origins of clinical heart failure might lie in ancient reflexes. His study of the right ventricle of the heart and the blood flow to the lungs of yaks showed they had adapted genetically to high altitude by eliminating the vasoconstrictor response due to reduction of oxygen.

Away from the laboratory, he was a talented musician and artist, and he showed a leaning toward satirical writing.