

The University of Arkansas
Department of Biological Sciences Seminar Series

Heart Attack and Mitochondria: The Powerhouses become a menace

By
Edward J. Lesnefsky Jr.



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Seminar Prep and Social: 3-3:30 pm ● 502

SEMINAR : 3:30 - 4:30 PM ● 604

Dr. Lesnefsky has an extensive track record in work related to mitochondrial biology. A major emphasis of his work is the contribution of mitochondria to cellular injury in pathologic settings of cardiac stress, including ischemia and reperfusion and the transition to heart failure. His recent work has focused on the modulation of electron transport, using pharmacologic and genomic approaches, to decrease cellular injury. His laboratory devotes substantial effort to the biochemical and physiologic study of the electron transport chain. Mitochondrial function and analytical biochemistry are studied in models from isolated mitochondrial complexes through intact mitochondria and cells to intact organs and in vivo models. Recent studies are focused on understanding the injury mechanisms downstream of the mitochondria that augment injury to the myocardium. The protective modulation of electron transport during reperfusion is studied from both the basic science and translational science perspectives. Ongoing work studies the role of cardiolipin in mitochondria-associated-membranes and their dysfunction with a focus on ischemia-reperfusion. He has published over 145 papers. His research has been funded by the National Institutes of Health, American Heart Association, Department of Defense and the Department of Veterans Affairs.