BMB and the MSU Center for Mitochondrial Science and Medicine will offer a graduate level seminar course (BMB 960) in Spring Semester 2018 on the topic of “Intersection of Mitochondrial Science and Medicine,” with the objective of exploring mitochondrial biochemistry in the context of the current field of mitochondrial medicine, including clinical correlations. The course will feature a combination of faculty and student presentations and consider topics such as: impact of nuclear and mitochondrial DNA mutagenesis and variability on organismal function, regulation of respiration and mitochondrial transcription by cell signaling, role of mitochondria in memory and neurodegenerative disease and the general field of mitochondrial health, oxidative stress and stress response, toxicity and disease.
Intersection of Mitochondrial Science and Medicine
Faculty: Laurie Kaguni (Coordinator), Shelagh Ferguson-Miller, John LaPres
Spring Semester, Thursdays 4:00 pm, 1 credit

Faculty Presenters  Tentative topic
January 11  Laurie Kaguni  Impact of nuclear and mitochondrial mutagenesis on mitochondrial function
January 18  John LaPres  The role of PAS proteins in mitochondrial homeostasis
February 8  Shelagh Ferguson-Miller  Tryptophan-rich sensory protein, TSPO, a first responder to stress?
February 22  Maik Huttemann (Wayne State University)  Regulation of oxidative phosphorylation by cell signaling

Related BMB Colloquium Speakers (We will have them visit class for student discussion.)
January 25  Elizabeth Jonas (Yale)  Mitochondrial ATP synthase in memory formation and in neurodegenerative disease
February 1  Gerald Hart (Johns Hopkins University)  Nutrient regulation of signaling and transcription by O-GlcNAcylation
February 15  José Antonio Enriquez (CNIC and CIBERFES, Madrid)  mtDNA variability shapes organismal metabolism
March 29  Douglas Spitz (Iowa)  Targeting mitochondrial oxidative metabolism for cancer therapy

Student Presentations

March 1, 15, 22, April 5, 12, 19, 26
(March 8 is spring break)