# SAHANA RAO, Ph.D.

LABORATORY OF VAMSI MOOTHA, M.D.
METABOLISM PROGRAM
BROAD INSTITUTE OF MIT AND HARVARD

## JANE COFFIN CHILDS-HHMI FELLOW

Oxidative phosphorylation is a central metabolic pathway that occurs within mitochondria. Decline in oxidative phosphorylation capacity is observed during aging and in many diseases. Dr. Sahana Rao aims to investigate how a tumor suppressor gene also suppresses mitochondrial biogenesis. Dr. Rao will also use a genome-wide screen to identify novel regulators of mitochondrial biogenesis. Rao will conduct these studies in Dr. Vamsi Mootha's lab at the Broad Institute. Collectively, these studies will provide insight into the regulation of mitochondrial biogenesis. They may also inform on mitochondrial dysregulation in aged or diseased states.

As a graduate student in Dr. Daniel Bachovchin's lab at Memorial Sloan Kettering Cancer Center, Rao investigated inflammasomes – innate immune sensors that detect pathogenic signals and form large signaling complexes to alert immune cells. Dr. Rao's studies elucidated molecular mechanisms of the activation of two inflammasome proteins, NLRP1 and CARD8, and established new tools to activate inflammasomes. With her extensive training as a chemical biologist, Rao will now study cellular metabolism and mitochondrial biogenesis in her postdoc.

FELLOW