We anticipate that this Project should identify or confirm several novel candidate genes underlying gametogenetic arrest in both sexes. We are going to generate a 'knockout' mice models (mice with disabled selected genes) to confirm the significance of identified gene mutations. This information would lead to understanding – how the novel genes function and why the gene mutations cause the decrease of gamete generation leading to infertility in both sexes (males and females), that may provide universal explanation of gametogenic arrest (meiosis).