South Americas experienced a dynamic and complex population history from the initial peopling of the continent to the impacts of European Colonialism and beyond. The UCSC Paleogenomics Lab employs genomic tools to study the genetic diversity of past and present Native South American groups in order to understand how people dispersed throughout the continent, and how episodes of societal and environmental change shaped their demography. Here, new genetic and archaeological findings will be presented, revealing the previously underestimated complexity of South American population history.