Altered-State(s) of Consciousness (ASC) is a group of consciousness states that are characterized by profound deviation of the individual consciousness from its normal awake state. This definition encompasses a wide range of mental phenomenon ranging from psychotic hallucinations to mystical revelation and from sensory deprivation to the consumption of psychedelics. Previous research aimed to pinpoint brain-related mechanisms that cause ASC. These studies showed that different ASC share some common neurological features, but also that they differ on critical and essential dimensions. In particular, the induction of ASC can be voluntary, while in other cases it is induced involuntary.

Ample evidence suggests that the genetic background of an individual contribute to the propensity to enter ASC among several types of ASC. However, as of today, genetic studies mainly concentrated on the genetics of pathological ASC. Little work was conducted regarding the propensity to enter non-pathological healthy ASC. Since current neurological research is moving forward in the direction of neurogenetics, it is natural to assume that studying the genetic basis of various forms of ASC will expand our understanding of different ASC and in a broader sense of consciousness itself.

Shamans are a unique group of people that voluntarily enter into ASC. The Shamanic ASC (also known as trance ASC) was extensively studied in religious studies and anthropology, but less so in neurobiology or genetics. In particular, past psychological anthropologists have erroneously identified the shamanic ASC with a psychotic ASC or with the presentation of a psychotic ASC in an accepting cultural context.

In this poster, I will describe a proposed research program to elucidate the genetic and cultural basis of the Shamanic ASC by working with Nepalese Shamans. Without assuming any pathological content to trance ASC or to individuals that identify as Shamans, but by assuming some genetic relativeness between the propensity for these two ASC, the genetic aspects will be inferred by genotyping Shamans DNA and calculating the Schizophrenia Polygenic Risk Score (PRS) for the Shaman and a control group. The PRS is a genetic measure for the ‘risk’ to develop Schizophrenia. Concomitant cultural aspects will be studied by collecting personal stories of shamanic initiation and comparing them to the known characteristics of the prodromal psychotic phase. Such research can have an impact on various levels. First, it can show a genetic basis for a specific ASC that was not identified until now. Second, it can help to elucidate the genetic understanding of ASC and the genetic demarcation between voluntarily vs. involuntarily ASC. Third, it can supply a fundamental understanding of Gene X Culture mechanisms that lead to ASC.