We propose to pursue research on advanced speech and spoken language processing building upon considerable experience in these domains, on the following topics:

- Technologies for robust speech interactions
- Advanced speech features: an integrative speech processing
- Speech–based emotional behavior analytics
- Speech interaction models including entrainment
- Multimodal view to speech processing
- Technologies for supporting NL spoken interactions in mobile settings

Human spoken language—conveying both verbal and non verbal information—is a key vehicle for not only determining “who” is saying “what” but offers a promising venue for capturing higher-level socio-emotional behavioral assessment and modeling.

Specific problems being studied include:

**Automatic Speech Recognition Robust to Age, Gender, and Linguistic-background Variability**

*Robust Voice activity detection and Speaker Segmentation*

*Novel Speech Features*

*A multimodal perspective to Speech Processing*

*Robust Recognition of Child Speech*